Boolean Network Rule Engine

Abstract

A Boolean Network rule engine is described. In one embodiment, for example, a system for evaluation of a set of rules based on input data is described that comprises: a rules interface for receiving a set of rules, each rule having at least one condition; a network builder for building a Boolean Network representation of the set of rules, the Boolean Network representation including transducers linked by logic gates, each transducer generating a Boolean value based on evaluating an item of input data against a condition of a rule; and a runtime evaluation engine for receiving input data, detecting changed items of input data, activating links among transducers and logic gates of the Boolean Network representation based on the changed items of input data so as to utilize transducers and logic gates of the Boolean Network representation relevant to rule evaluation outcome, and evaluating rules based on the input data and active transducers and logic gates of the Boolean Network representation.